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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Heon-Joo Jeong

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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT

PAPER NUMBER

2666

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DATE MAILED: 05/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/741,608

Applicant(s)

JEONG ET AL.

Examiner

Robert C. Scheibel

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2666

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: the meaning of the phrase converting AAL2 cells to AAL2 prime cells is not sufficiently clear in the disclosure. Note that claim 3 relies on this description for proper interpretation. For the purposes of the art rejections below, this conversion is interpreted as extracting the AAL2 packets from multiple users and converting them to ATM cells containing data only for a single user (see the rejections below for more detail). The best description of this concept is found in paragraph 55 on page 3. This concept should be made much clearer. Ideally, this type conversion should be supported by a number of figures describing exactly what is converted, or by appropriate references to publications explaining this conversion.

Appropriate correction is required.

Claim Objections

2. Claim 3 is objected to because of the following informalities:
- The following passage (lines 16-22 of claim 3) is unclear: "a reception (RX) type conversion unit for receiving the second ATM cells and classifying the second ATM cells into ATM adaptation layer 5 (AAL5) ATM cells and ATM adaptation layer 2 (AAL2) ATM cells, wherein the AAL5 ATM cells are bypassed to the reception (RX) multiplexer and the AAL2 ATM cells are converted into AAL2

prime ATM cells to transmit the AAL2 prime ATM cells to the reception (RX) type conversion unit". This passage describes the RX type conversion unit receiving ATM cells, converting the AAL2 cells, and then transmitting those cells to the RX type conversion unit (itself). For the purposes of the art rejections below, it is assumed that the converted cells should be transmitted to the RX multiplexer. Note that the specification in Figure 5 and paragraph 55 of page 3 indicate that the RX type conversion unit transmits to the RX multiplexer.

- The following passage (lines 26-32 of claim 3) is also unclear: "a transmission (TX) type conversion unit for classifying the second ATM cells transmitted from the transmission (TX) multiplexer into AAL5 ATM cells and AAL2 ATM cells, wherein the AAL5 ATM cells are bypassed to the transmission (TX) multiplexer, and the AAL2 ATM cells are converted into AAL2 prime ATM cells to transmit the AAL2 prime ATM cells to the transmission (TX) multiplexer". This claim does not match the description in the specification (see paragraph 59 on page 3).

According to the specification, the TX type conversion unit should be receiving AAL2 prime cells and converting them to AAL2 cells. The claim should be reworded to match the description in the specification.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims **3-8** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 recites the limitation "the optical transceiver" in line 36. There is insufficient antecedent basis for this limitation in the claim. Changing "the optical transceiver" in line 36 to "an optical transceiver", and modifying the optical transceiver passage from lines 37-39 of claim 3 can overcome this rejection.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims **1-2** are rejected under 35 U.S.C. 102(a) as being anticipated by applicant's admitted prior art.

Regarding claim 1, the BTS 10 in Figure 1 discloses the limitation of a base transceiver station (BTS) for providing asynchronous transfer mode (ATM) cells. The limitation of an asynchronous transfer mode (ATM) switch for performing a switching of

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the ATM cells is disclosed by the ATM Switch 30 of Figure 1. Figure 1 also discloses a BTS interface subsystem (BIS) for interfacing the base transceiver station (BTS) with the asynchronous transfer mode (ATM) switch, wherein the BTS interface subsystem (BIS) includes a plurality of assembly symbol subsystems (ASSs) for receiving the ATM cells transmitted from the base transceiver station (BTS) and performing a type conversion of the ATM cells to output a type converted ATM cells to the asynchronous transfer mode (ATM) switch. The BIS is disclosed in the BIS 20. The plurality of ASSs are disclosed in the AFDAs 21-24. The AFDAs perform type conversion of the ATM cells as indicated by the type conversion units 208-211 of Figure 2 and described in paragraph 16 on page 1.

Regarding claim 2, the limitation that the ATM cells are transmitted from the BTS to the BIS via an E1 line is disclosed in the lines E1 #0 through E1 #15 in Figure 2.

7. Claims 1 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,445,683 to Nobuyasu et al.

The BTS for providing ATM cells is disclosed by the BTS 11 of Figure 2. The ATM switch for performing switching of ATM cells is disclosed by the ATM SW Unit 23 of Figure 2. The BIS for interfacing the BTS with the ATM Switch is disclosed by the set of BTS Interface modules 21-22 of Figure 2. A plurality (subset) of the BTS Interface modules discloses an ASS; they receive ATM cells (AAL2/AAL5 cells) and perform a type conversion (AAL2 to AAL0) to cells output to the ATM switch.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,445,683 to Nobuyasu et al in view of Applicant's admitted prior art.

Regarding claim 2, Nobuyasu discloses all the limitations of parent claim 1 as discussed in the rejection under 35 U.S.C. 102 (e) above. Nobayasu discloses the ATM cells being transmitted between the BTS and the BIS via a T1 interface (see lines 30-32 of column 6).

Nobuyasu does not disclose expressly the limitation of claim 2 that the ATM cells are transmitted between the BTS and the BIS via an E1 line. However, applicant's

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admitted prior art discloses ATM cells being transmitted from the BTS to the BIS via an E1 line (see E1 #0 through E1 #15 of Figure 2). Nobuyasu and applicant's admitted prior art are analogous art because they are from the same field of endeavor of basestation systems using ATM. At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Nobuyasu to use E1 instead of T1 as the interface between the BTS and the BIS. The motivation for doing so would have been to enable the BTS and BIS to be used in geographical areas where E1 is the adopted standard; this allows Nobuyasu to be used in a wider variety of wireless systems. Therefore, it would have been obvious to a person of ordinary skill in the art to combine applicant's prior art with Nobuyasu for the benefit of being useful in countries which use E1 as the standard to obtain the invention as specified in claim 2.

Allowable Subject Matter

11. Claims **3-8** would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter. U.S. Patent 6,445,683 to Nobuyasu et al represents the closest art to the invention as specified in claim 3. Nobuyasu and the applicant's prior art disclose all the limitations of parent claim 2 as described above. Further, all the limitations of claim 3 are either disclosed in or are obvious modifications of Nobuyasu except the RX

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multiplexer for classifying ATM cells in to first (internal) cells and second cells.

Nobuyasu discloses the first type of cells (order wire service information cells processed by OW processor 26 in Figure 2) and the second type of cells (other AAL2 and AAL5 cells). However, the ASSs of Nobuyasu (BTS Interface 21) do not have the functionality of the RX multiplexer specified in lines 12-15 of claim 3. Nobuyasu performs the same type conversion on the order wire cells as the other AAL2 cells; these cells are then directed to the OW processor by the ATM switch.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent Application Publication 2002/0072380 to Takashima et al, U.S. Patent 6,456,860 to Nakagaki, U.S. Patent 5,878,045 to Timbs, and U.S. Patent 6,034,950 to Sauer et al all teach interface units between base transceivers and base controllers similar to the BIS of the present application. U.S. Patent 6,597,698 to Lundback et al teaches an AAL2 to AAL2 prime conversion similar to that described by the applicant.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 703-305-9062. The examiner can normally be reached on 6:30-3:30.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RCS 4-26-04
Robert C. Scheibel
Examiner
Art Unit 2666

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